

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A method of assigning virtual circuit identifiers for routing data in a network

comprising a plurality of nodes interconnected by links of different data rates, the method

comprising:

receiving link state information at a first node of the plurality of nodes, the link state information comprising link data rate information;

determining whether the link data rate information indicates if the links interconnecting the plurality of nodes satisfy a threshold data rate; and

assigning virtual circuit identifiers to nodes in the network based on whether the link data rate information indicates that the links satisfy the threshold data rate.

2. (Original) The method of claim 1, wherein the link state information received at the first node is received in packets flooded from at least one node of the plurality of nodes.

3. (Original) The method of claim 1, further comprising:

identifying, from the link data rate information, fastest links of the links interconnecting the plurality of nodes; and

assigning virtual circuit identifiers to nodes in the network interconnected via the fastest links.

4. (Original) A network device, comprising:

at least one network interface configured to:

connect to at least one link, the at least one link being further connected to at least one node of a plurality of nodes in a network, and

receive link state information comprising link data rate information; and

at least one processor configured to:

determine whether the link data rate information indicates if the links interconnecting the plurality of nodes satisfy a threshold data rate, and

assign virtual circuit identifiers to nodes in the network based on whether the link data rate information indicates that the links satisfy the threshold data rate.
5. (Original) The network device of claim 4, wherein the link state information is received in packets flooded from at least one node of the plurality of nodes.
6. (Original) The network device of claim 4, wherein the at least one processor is further configured to:

identify, from the link data rate information, fastest links of the links interconnecting the plurality of nodes, and

assign virtual circuit identifiers to nodes in the network interconnected via the fastest links.

7. (Original) A computer-readable medium containing instructions for controlling at least one processor to perform a method of assigning virtual circuit identifiers for routing data in a network comprising a plurality of nodes interconnected by links of different data rates, the method comprising:

obtaining link data rate information by a first node of the plurality of nodes;

determining whether the link data rate information indicates if the links interconnecting the plurality of nodes satisfy a threshold data rate; and

assigning virtual circuit identifiers to nodes in the network based on whether the link data rate information indicates that the links satisfy the threshold data rate.

8. (Original) The computer-readable medium of claim 7, wherein the data rate information obtained by the first node is received in packets flooded from at least one node of the plurality of nodes.

9. (Original) The computer-readable medium of claim 7, the method further comprising:

identifying, from the link data rate information, fastest links of the links interconnecting the plurality of nodes; and

assigning virtual circuit identifiers to nodes in the network interconnected via the fastest links.

10. (Original) A method of routing data in an ad-hoc network comprising a plurality of nodes interconnected by links of different data rates, the method comprising:

receiving link state information at a first node of the plurality of nodes, the link state information comprising link data rate information;

determining whether the link data rate information indicates if the links interconnecting the plurality of nodes satisfy a threshold data rate;

assigning virtual circuit identifiers to nodes in the network based on whether the link data rate information indicates that the links satisfy the threshold data rate; and

routing data received at the first node using the assigned virtual circuit identifiers.

11. (Original) The method of claim 10, wherein the link state information received at the first node is received in packets flooded from at least one node of the plurality of nodes.

12. (Original) The method of claim 10, further comprising:

identifying, from the link data rate information, fastest links of the links interconnecting the plurality of nodes;

assigning virtual circuit identifiers to nodes in the network interconnected via the fastest links; and

routing data received at the first node using the assigned virtual circuit identifiers.

13. (Currently amended) A router, comprising:

at least one network interface configured to:

connect to at least one link, the at least one link being further connected to at least one node of a plurality of nodes in a network; and

at least one processor configured to:

receive link state information at the ~~router~~ router, the link state information comprising link data rate information,

determine whether the link data rate information indicates if the links interconnecting the plurality of nodes satisfy a threshold data rate,

assign virtual circuit identifiers to nodes in the network based on whether the link data rate information indicates that the links satisfy the threshold data rate, and

route data received at the router using the assigned virtual circuit identifiers.

14. (Original) The router of claim 13, wherein the link state information is received in packets flooded from at least one node of the plurality of nodes.

15. (Original) The router of claim 13, wherein the at least one processor is further configured to:

identify, from the link data rate information, the fastest links of the links interconnecting the plurality of nodes,

assign virtual circuit identifiers to nodes in the network interconnected via the fastest links, and

route data received at the router using the assigned virtual circuit identifiers.

16. (Original) A computer-readable medium containing instructions for controlling at least one processor to perform a method of routing data in an ad-hoc network comprising a plurality of nodes interconnected by links of different data rates, the method comprising:

receiving link data rate information at a first node of the plurality of nodes;

determining whether the link data rate information indicates if the links interconnecting the plurality of nodes satisfy a threshold data rate;

assigning virtual circuit identifiers to nodes in the network based on whether the link data rate information indicates that the connected links satisfy the threshold data rate; and

routing data received at the first node using the assigned virtual circuit identifiers.

17. (Currently amended) The computer-readable medium of claim [[8]] 16, wherein the link data rate information received at the first node is received in packets flooded from at least one node of the plurality of nodes.

18. (Currently amended) The computer-readable medium of claim [[8]] 16, ~~wherein the at least one processor is further configured to~~ further comprising:

~~identify~~ identifying, from the link data rate information, fastest links of the links interconnecting the plurality of nodes,

~~assign~~ assigning virtual circuit identifiers to nodes in the network interconnected via the fastest links, and

~~route~~ routing data received at the first node using the assigned virtual circuit identifiers.

19. (Original) A system for routing data in an ad-hoc network comprising a plurality of nodes interconnected by links of different data rates, the system comprising:

means for receiving link state information at a first node of the plurality of nodes, the link state information comprising link data rate information;

means for determining whether the link data rate information indicates if the links interconnecting the plurality of nodes satisfy a threshold data rate;

means for assigning virtual circuit identifiers to nodes in the network based on whether the link data rate information indicates that the links satisfy the threshold data rate; and
means for routing data received at the first node using the assigned virtual circuit identifiers.

20. (New) A method of assigning virtual circuit identifiers for routing data in a network comprising a plurality of nodes interconnected by links of different data rates, the method comprising:

determining link data rates for links connected to a subset of the plurality of nodes;

sorting the subset of nodes based on the determined link data rates to produce an ordered list of the subset of nodes;

selecting a portion of the subset of nodes from a top of the ordered list; and

assigning virtual circuit identifiers to the selected portion of the subset of nodes.

21. (New) The method of claim 20, further comprising:

constructing a spanning tree that comprises the plurality of nodes.

22. (New) The method of claim 20, wherein sorting the subset of nodes based on the determined link data rates comprises:

sorting the subset of nodes from fastest link data rates at the top of the ordered list to slowest link data rates at the bottom of the ordered list.

23. (New) The method of claim 22, wherein selecting a portion of the subset of nodes from the top of the ordered list comprises:

selecting nodes of the subset of nodes connected to links having the fastest link data rates.